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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,483	06/23/2003	Galen F. Fromm	A0-173 US	1390

23683 7590 09/07/2004

MOLEX INCORPORATED
2222 WELLINGTON COURT
LISLE, IL 60532

EXAMINER	
HAMMOND, BRIGGITTE R	
ART UNIT	PAPER NUMBER
2833	

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/601,483	FROMM ET AL.	
	Examiner	Art Unit	
	Briggitte R. Hammond	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9 and 11-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9 and 11-14* is/are rejected.

7)☒ Claim(s) *15-17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/6/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Claim Objections

Claims 2, 6 and 7 are objected to because of the following informalities: in claim 2, line 1, change numeral "1" to - -2- - , (projections and recess lack proper antecedence), and in claims 6 and 7, line 2, insert - - . - - at the end of the sentence(s). Appropriate correction is required.

Claim Rejections - 35 USC § 103

Claims 1-7, 9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pauza et al. 3,399,374 in view of Bassler et al. 6,280,209. Pauza discloses a high density electrical connector comprising:

a housing which holds a plurality of conductive terminals 44,58, the terminals having contact portions for mating to opposing contact portions of opposing terminals of a mating connector, said terminals including at least first and second distinct sets of

terminals (see attachment), each distinct set of terminals including a pair of terminals and an associated terminal, said housing being formed from at least first and second interengaging segments 32,50, the first of said segments supporting said first distinct set of terminals, and said second of said segments supporting said second distinct set of terminals; and the two distinct sets of terminals being disposed in at least two rows on said housing, said first and second distinct sets of terminals being inverted with respect to each other within said housing (see fig. 3). Pauza doees not disclose the terminals being used as differential signal terminals and a ground terminal, wherein one of the rows includes a pair of differential signal terminals from said first distinct set of terminals and a ground terminal from said second distinct set of terminals, the other of said two rows including a pair of differential signal terminals from said second distinct set of terminals and a ground terminal from said first distinct set of terminals. However, differential terminals are well known in the art as evidenced by Bassler. Bassler discloses in fig 5a terminals being used as differential signal terminals 140 and an associated ground terminal 150. it would have been obvious to one of ordinary skill to modify the connector of Pauza et al. by using the terminals as differential signal terminals and a ground terminal, in turn one of the rows would include a pair of differential signal terminals from said first distinct set of terminals and a ground terminal from said second distinct set of terminals, the other of said two rows would include a pair of differential signal terminals from said second distinct set of terminals and a ground terminal from said first distinct set of terminals for controlling impedance and to carry different signals as taught by Bassler et al.

Regarding claim 2, Pauza discloses each of the housing first and second interengaging segments include complementary-shaped projections and recesses, as shown in figures 1 and 3.

Regarding claims 3 and 4, Pauza discloses the housing first and second interengaging segment complementary -shaped projections and recesses being disposed on opposing sides of the segments, and the projections and recesses are wedge-shaped.

Regarding claim 5, Pauza does not disclose the terminals having contact portions extending from a first face of said housing segments and tail portions extending from a second face of said housing segments. However, Bassler disclose the terminals having contact portions extending from a first face of said housing segments and tail portions extending from a second face of said housing segments. Therefore it would have been obvious to modify the connector of Pauza by having the terminals have contact portions extending from a first and tail portions extending from a second face for connection to a mationg connector and a substrate as taught by Bassler.

Regarding claim 6, the first and second faces are disposed on opposite sides of said housing segments.

Regarding claim 7, Pauza discloses an exterior carrier member 2 that engages the housing segments and holds them together as a unit.

Regarding claim 9, Bassler discloses the terminal contact portions are spaced apart from each other in a horizontal direction and said ground terminal contact portion is spaced vertically apart from the signal terminal contact portions, see fig. 5.

Regarding claim 12, Pauza discloses the terminals being arranged in a triangular pattern in each of said housing segments and are arranged at vertices of an imaginary triangle and maintain the triangular pattern through said housing segments, as shown in fig. 3.

Regarding claims 13 and 14, Bassler discloses the contact portions and tail portions being arranged in a triangular pattern, whereby said contact portions of said two differential signal and said associated round terminals are arranged at vertices of an imaginary triangle when viewed from the faces thereof.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pauza and Bassler as applied to claim 2 above, and further in view of Hung et al. 6,264,501. Neither Bassler nor Pauza disclose the projections and recesses including mortise and tenon members.

However, projections and recesses being mortise and tenon members is well known in the art as evidenced by Hung et al. 6,264,501. Hung discloses mortise and tenon members (claim 7). It would have been obvious to one ordinary skill to modify the projections and recesses of Pauza with mortise and tenon members for a secure fit as taught by Hung et al.

Allowable Subject Matter

Claims 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 15, patentability resides, at least in part, in the projections and recesses being sized so as to leave air gaps between portions adjacent ones of said interengaging housing segments, in combination with the other limations of the base claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Briggitte R. Hammond whose telephone number is 571-272-2006. The examiner can normally be reached on Mon.-Thurs. and Alternate Fridays from 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A Bradley can be reached on 571-272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Briggitte R. Hammond

Briggitte Hammond

August 26, 2004